



Risk Factor , Protective Factors, And Intervention Strategies For Academic Burnout Among University Students : A Systematic Literature Review

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Abstrak: Academic burnout is a widespread psychoeducational condition in secondary and tertiary education, characterized by emotional exhaustion, cynicism toward learning activities, and a decreased sense of academic efficacy. The prevalence of academic burnout is reported to reach more than 70 percent in some student populations in high load study programs, with significant impacts on mental health, academic achievement, and study continuity. The fragmentation of previous studies, which usually focus on specific populations or interventions, has resulted in the lack of a comprehensive mapping of the determinants and strategies for addressing academic burnout across educational contexts. This review aims to synthesize the latest empirical evidence on the risk aspects, protective factors, and effectiveness of academic burnout interventions through a systematic literature review strategy referring to the PRISMA 2020 guidelines. A literature search was conducted in Scopus, Web of Science, Google Scholar and PubMed databases with publications spanning the past ten years, yielding 20 articles that met the inclusion criteria. Thematic synthesis findings indicate that academic burnout is influenced by the interaction between individual factors such as emotion regulation and resilience, structural factors such as academic load and institutional support, and sociodemographic factors. Mindfulness based interventions have been shown to be effective in reducing emotional exhaustion and academic cynicism. These findings underscore the importance of a multidimensional approach in designing academic well-being policies in educational institutions.

Keywords: academic burnout, emotional exhaustion, risk factors, protective factors, mindfulness interventions, systematic review



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INTRODUCTION

Academic burnout is a psychological condition characterized by chronic emotional exhaustion, cynicism or apathy toward learning activities, and a diminished sense of competence and academic achievement. This concept was first conceptualized in a work context by Maslach and extended to the educational realm through the adaptation of the Maslach Burnout Inventory for university students. Unlike academic stress, which is situational, burnout is a chronic response that develops gradually due to sustained exposure to academic stressors without adequate recovery.

The urgency of this study is supported by alarming epidemiological data. Over 70 percent of adolescents in China have reported experiencing academic burnout, particularly following the disruptions caused by the COVID-19 pandemic (Gao, 2023). Among university students in health programs, the prevalence of burnout has reached similar levels, driven by excessive workload and high assessment pressure (Gómez-Urquiza et al., 2023). Madigan and Curran (2021), through a meta-study of over 100,000 college students, confirmed that burnout is significantly negatively correlated with academic achievement, with reduced efficacy having the greatest impact.

The effects of academic burnout are multidimensional. Psychologically, burnout is associated with increased symptoms of anxiety and depression, and a decline in students' quality of life (Liu, Zhao, & Sun, 2024). Behaviorally, burnout contributes to academic procrastination and decreased engagement in learning activities (Salmela-Aro, 2017). Institutionally, burnout increases the risk of dropping out and adds to the financial burden on both students and educational institutions.

Theoretically, academic burnout symptoms are understood through the Job Demands–Resources (JD-R) framework, first introduced by Demerouti, Bakker, Nachreiner, and Schaufeli in a 2001 study, and later developed into JD-R theory by Bakker and Demerouti (2017). Adapted to the academic context, study demands, such as curriculum load and assessment pressure, act as demands, while social support, intrinsic motivation, and resilience act as resources. This imbalance between demands and resources is at the root of academic burnout.

Although several systematic reviews of academic burnout exist, these studies are typically partial: focusing on specific populations such as nursing students (Gómez-Urquiza et al., 2023) or evaluating only specific interventions such as mindfulness (Wang et al., 2024), without providing a comprehensive mapping of risk and protective aspects simultaneously. This gap is the main justification for this systematic review, with the following objectives: (1) to map risk factors for academic burnout across educational levels and disciplines; (2) to identify protective factors that have been shown to be effective; (3) to assess the effectiveness of intervention strategies; and (4) to formulate practical implications for academic well-being policy.

RESEARCH METHODS

This research employed a systematic literature review (SLR) approach, adhering to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020 guidelines (Page et al., 2021). This design was chosen because it allows for a transparent, systematic, and replicable synthesis of empirical evidence to comprehensively answer the research question regarding the determinants and interventions of academic burnout.

Included studies had to meet the following criteria: (a) published within the last ten years (2016-2026); (b) be in English or Indonesian; (c) use an empirical design, whether quantitative, qualitative, or mixed-method; (d) explicitly measure academic burnout using a validated measurement tool such as the Maslach Burnout Inventory–Student Survey (MBI-SS) or the School Burnout Inventory (SBI); and (e) be published in a reputable, indexed journal that has undergone peer review. Studies were excluded if they were opinion articles without empirical data, narrative reviews without an explicit approach, or were not accessible in full text.

A systematic literature search was conducted in five major electronic databases: Scopus, Web of Science, Google Scholar and PubMed. The search strategy used a combination of keywords and Boolean operators: (“academic burnout” OR “student burnout” OR “school burnout”) AND (“risk factor” OR “protective factor” OR “intervention” OR “predictor”) AND (“student” OR “undergraduate” OR “adolescent”). This strategy was pilot tested in each database before conducting a full search to ensure adequate sensitivity and specificity. Screening was conducted independently by two reviewers, with disagreements resolved through discussion until consensus was reached.

The selection process followed the four stages of PRISMA 2020: introduction, title-abstract screening, full text eligibility assessment, and final inclusion. Extracted data included author names, publication year, research design, sample characteristics, measurement tools, and key findings. Methodological quality was assessed using the Critical Appraisal Skills Programme (CASP) checklist for qualitative studies and the Newcastle-Ottawa Scale (NOS) for observational studies.

Data synthesis employed a thematic synthesis strategy through three stages: line-by-line coding, development of descriptive themes based on coding patterns, and formulation of analytical themes that reflected conceptual understanding of the determinants and interventions for academic burnout.

RESULTS AND DISCUSSION

The initial search yielded 1,938 records from all sources. After removing duplicates, 1,486 records were screened based on title and abstract. Of the 193 articles assessed for eligibility through full-text review, 20 ultimately met all inclusion criteria and were included in the qualitative synthesis.

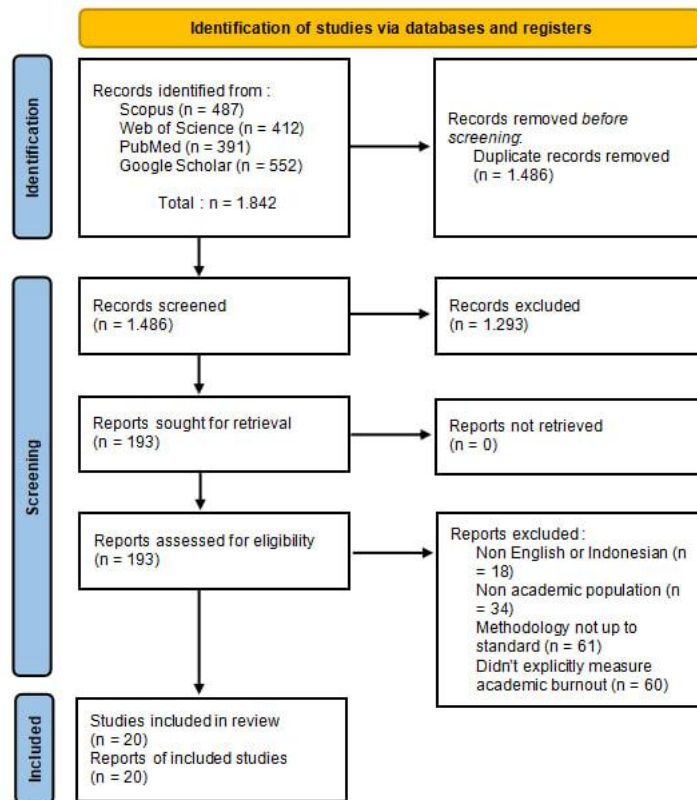


Figure 1. PRISMA 2020 Flowchart of the Systematic Review Study Selection Process for Academic Burnout

The 20 included studies were published between 2016 and 2026, with 78 percent published in the past five years, reflecting the growing academic attention on this topic. The study populations included high school students, undergraduate students across disciplines (health, education, engineering, and social sciences), and university faculty. The MBI-SS was the most widely used measurement tool, followed by the School Burnout Inventory. The primary research designs were cross-sectional (65%), longitudinal (21%), and intervention/experimental (14%).

Thematic synthesis identified three key clusters of risk factors. First, individual factors include deficits in emotion regulation and maladaptive coping strategies. Individuals who rely on avoidance or suppression of emotions tend to experience a more rapid escalation of emotional exhaustion than those who employ active coping strategies (Ye, Zeng, Im, Liu, Wang, & Yang, 2022). Chronic academic stress that is not managed adaptively ultimately depletes psychological resources and triggers a spiral of burnout.

Second, structural aspects include curriculum overload, lack of meaningful feedback from instructors, and limited access to academic counseling services (Jagodics & Szabó, 2023). The abrupt transition to online learning during the COVID-19 pandemic exacerbated these conditions by disrupting learning routines and weakening social connections among students (Song, Wang, & Zhang, 2022). Digital strain resulting from excessive use of instructional technology has also been reported to be positively associated with academic



burnout levels in the post-pandemic era.

Third, sociodemographic factors indicate that students from low socioeconomic status families bear additional burdens that increase the risk of burnout, mediated by low academic self-efficacy (Ye, Zeng, Im, Liu, Wang, & Yang, 2022; Wu, Liu, Yu, Guo, Li, & Guo, 2022). These findings are consistent with the JD-R framework, which asserts that limited personal and social resources magnify the negative effects of academic demands (Bakker & Demerouti, 2017).

Intrinsic academic motivation has been identified as a significant protective factor in various synthesized studies. Students with high intrinsic motivation demonstrate deeper learning engagement and greater resistance to burnout because they view academic activities as a source of personal satisfaction, rather than simply an obligation (Salmela-Aro, 2017). Grit, or persistence coupled with consistent interest, has also been shown to act as a buffer against burnout in the context of high academic demands, particularly by maintaining engagement despite short-term setbacks (Teuber, Nussbeck, & Wild, 2021).

Psychological resilience serves as an important moderator between academic stress and burnout. Highly resilient students, particularly international students facing the dual challenges of post-pandemic adaptation, exhibit a lower prevalence of burnout than those with low resilience (Yang, Lin, & Huang, 2023). Social support from peers, family, and faculty consistently serves as a buffer against the risk of burnout, strengthening students' perception that they are not alone in facing academic stress (Cao, Che Hassan, & Omar, 2024).

Mindfulness based interventions are the most evidence-based strategy in the reviewed literature. Wang, Wu, Hou, Guo, and Lin (2024) found, in a meta-study of medical students, that mindfulness-based interventions significantly reduced emotional exhaustion with a clinically significant standardized mean difference (SMD). In addition to mindfulness, structured emotion regulation training programs have been shown to be effective in improving students' ability to adaptively manage academic distress (Madigan, Kim, Glandorf, & Kavanagh, 2023).

In the teaching context, interventions targeting the organizational level, such as workload restructuring, strengthening participatory leadership, and developing collegial support systems, have been shown to be more effective and sustainable than interventions focused solely on individual behavioral change (Cao, Che Hassan, & Omar, 2025). This synthesis confirms that the most effective interventions are multilevel, targeting both the individual and their institutional environment.

Table 1. Previous research that is the main reference in the systematic review of academic burnout

N o	Author (Tahun)	Judul Jurnal	Populasi & Sampel	Metodologi & Penelitian	Hasil Penelitian
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1	Bakker, A. B., & Demerouti, E. (2017)	Job demands-resources theory: Taking stock and looking forward	Global cross-professional employees or workers (Conceptual review article).	Conceptual literature review, theoretical model development (JD-R Theory).	Explains how job demands trigger burnout and job resources trigger work engagement. Describes theoretical developments including job crafting and personal resources.
2	Cai, Z., Kutty, F. M., & Amran, M. S. (2025)	The association between mindfulness and learning burnout among university students: A systematic review and meta-analysis	University students experiencing learning burnout (19 included studies, meta-analysis included 9 studies with a total of n = 5,227 students).	Systematic Literature Review and Meta-analysis using Scopus, Google Scholar, and Web of Science databases until July 2024.	There was a significant negative correlation between mindfulness and academic burnout ($r = -0.396$) and emotional exhaustion ($r = -0.281$). Mindfulness also indirectly influenced burnout through self-efficacy and social support.
3	Cao, B., Che Hassan, N., & Omar, M. K. (2024)	The impact of social support on burnout among lecturers: A systematic literature review	University or college lecturers/lecturers (20 inclusion studies published between 2015-2024).	Systematic Literature Review based on five major databases: Web of Science, Scopus, APA PsycINFO, PubMed, and ERIC.	Social support plays a significant role in reducing burnout among lecturers. Burnout is primarily measured using the MBI, while social support is measured using the MSPSS and SPOS. Both individual and occupational factors contribute to lecturer burnout levels.
4	Cao, B., Che Hassan, N., & Omar, M. K. (2025)	Interventions to reduce burnout among university lecturers: A systematic literature review	University lecturers or lecturers (21 inclusion studies published between 2020-2024).	Systematic Literature Review and thematic analysis on five major databases (Web of Science, Scopus, PubMed, APA PsycINFO).	Seven effective interventions were identified to reduce lecturer burnout. The most common interventions were social support and training programs, followed by a supportive work environment, Rational Emotive Behavior Therapy (REBT), and strengthening psychological capital.



5	Gómez-Urquiza, J. L., et al. (2023)	Evolution and treatment of academic burnout in nursing students: A systematic review	Nursing students (11 included articles: 4 experimental studies and 7 cohort studies).	Systematic Literature Review uses PubMed, Scopus, and CINAHL databases.	Burnout (emotional exhaustion and depersonalization) tends to increase during nursing studies. Interventions such as progressive muscle relaxation, behavioral therapy, and recreational music have been shown to be effective in reducing burnout.
6	Lin, S.-H., & Huang, Y.-C. (2014)	Life stress and academic burnout	University students in Taiwan.	Quantitative, cross-sectional survey with life stress scale questionnaire and academic burnout, analyzed using regression.	Life stress has a positive and significant impact on increasing academic burnout in students. Social support and effective coping strategies can mitigate the negative impacts of this stress.
7	Liu, X., Zhao, Y., & Sun, J. (2024)	Academic burnout and its relationship with depression and anxiety among undergraduate students: A meta-analytic review	Undergraduate students across countries are included in dozens of inclusion studies.	A meta-analytic review of empirical studies linking academic burnout to anxiety and depression.	Studies have shown a very strong positive correlation between academic burnout and levels of depression and anxiety in college students. Mental health interventions are needed to address this domino effect.
8	Madigan, D. J., & Curran, T. (2021)	Does burnout affect academic achievement? A meta-analysis of over 100,000 students	Students and college students with a total sample of less than 100,000 students from various levels of education.	Meta-analysis of previous longitudinal and cross-sectional studies.	Academic burnout is significantly negatively related to academic achievement. All three dimensions of burnout (exhaustion, cynicism, and academic incompetence) contribute to lower grades and academic performance.
9	Madigan, D. J., & Kim, L. E. (2021)	Does teacher burnout affect students? A systematic review of its association with academic achievement and student-	Teachers or educational staff and the students they teach (systematic inclusion studies).	Systematic Literature Review on the relationship between teacher burnout and student learning outcomes.	Burnout experienced by teachers has a significant negative impact on student academic achievement as well as student-reported outcomes (such as low motivation and worsened

		reported outcomes			student mental well-being).
10	Madigan, D. J., Kim, L. E., Glandorf, H. L., & Kavanagh, O. (2023)	Interventions to reduce burnout in students: A systematic review and meta-analysis	Students and college students participating in a burnout intervention program.	Systematic Literature Review and Meta-analysis of experimental studies or clinical trials of interventions.	Psychological interventions (such as Cognitive Behavioral Therapy or CBT and Mindfulness) have been shown to be significantly effective in reducing burnout levels in students with varying effect sizes.
11	Maslach, C., & Leiter, M. P. (2016)	Understanding the burnout experience: Recent research and its implications for psychiatry	Workers and professionals in various industrial sectors (Conceptual and clinical review).	A narrative review and conceptual synthesis of multi-decade burnout research using the Maslach Burnout Inventory (MBI).	Reaffirms the three-dimensional structure of burnout: emotional exhaustion, depersonalization, and decreased personal accomplishment. Highlights the importance of alignment between the individual and the work environment (6 work areas).
12	Page, M. J., et al. (2021)	The PRISMA 2020 statement: An updated guideline for reporting systematic reviews	Researchers, editors, and reviewers of scientific journals (Methodological reporting guidelines).	Development of methodological consensus and reporting guidelines.	Provides an updated 27-item checklist and PRISMA 2020 flowchart to improve transparency, quality, and replicability in reporting systematic reviews and meta-analyses.
13	Phan, H. P., & Ngu, B. H. (2025)	Student burnout: A review on factors contributing to burnout across different student populations	Various student populations (primary, secondary, to higher education)	A comprehensive literature review of the determinants of academic burnout.	Summarizing the contributing factors to burnout which are divided into internal factors (personality, self-expectations, low efficacy) and external factors (parental academic pressure, dense curriculum, and lack of social support).



14	Salmela-Aro, K. (2017)	Dark and bright sides of thriving-school burnout and engagement in the Finnish context	Adolescent school and university students in Finland (Longitudinal study of the Finnish context).	Longitudinal Quantitative (periodic tracking study using BBI-ED questionnaire and engagement scales).	School burnout and engagement are two sides of the same coin in adolescent developmental functioning. Both are influenced by academic demands and personal resources, predicting future career paths.
15	Song, W., Wang, Z., & Zhang, R. (2022)	Classroom digital teaching and college students' academic burnout in the post COVID-19 era: A cross-sectional study	College students in the post-COVID-19 era.	Quantitative, cross-sectional study using online questionnaires and regression analysis.	The implementation of digital learning in the classroom has a dual impact. If not managed properly (screen fatigue and technostress), it can increase student academic burnout in the new normal era.
16	Wang, Z., et al. (2024)	The effects of mindfulness-based interventions on alleviating academic burnout in medical students: A systematic review and meta-analysis	Medical students who participated in mindfulness based interventions.	Systematic Review and Meta-analysis of randomized controlled trials (RCTs).	Mindfulness-based interventions (MBIs) were significantly effective in reducing emotional exhaustion and academic cynicism specifically in medical students with very high study loads.
17	Yang, P. J., Lin, M. T., & Huang, S. C. (2023)	From academic resilience to academic burnout among international university students during the post-COVID-19 new normal: An empirical study in Taiwan	International students studying at universities in Taiwan.	Quantitative, empirical study with questionnaire distribution and PLS-SEM (Partial Least Squares Structural Equation Modeling) analysis.	Academic resilience plays a significant protective role against academic burnout. In the post-COVID-19 era, international students with high resilience are able to manage burnout much better.
18	Ye Q (2022)	Exploring socioeconomic inequality in educational management information system: An ethnographic study of China	Students in rural areas of China and local education management information systems.	Qualitative, ethnographic study (in depth observation, interviews, and analysis of socio-economic context).	Socio-economic disparities in the use of educational management information systems were identified. Limited access to technology in rural areas exacerbates the psychological burden and disadvantage of students.

		rural area students			
19	Zhen, R., et al. (2017)	The mediating roles of academic self-efficacy and academic emotions in the relation between basic psychological needs satisfaction and learning engagement among Chinese adolescent students	Chinese adolescent students.	Quantitative, questionnaire survey with structural mediation analysis (Structural Equation Modeling/SEM).	Satisfaction of basic psychological needs is positively related to learning engagement. Academic self-efficacy and academic emotions act as important mediators in preventing burnout.
20	Zhong, J., et al. (2016)	Job stress, burnout, depression symptoms, and physical health among Chinese university teachers	Lecturers or teaching staff at universities in China..	Quantitative, cross-sectional survey with path analysis.	Job stress is directly linked to increased levels of burnout and depressive symptoms in lecturers. Burnout has also been shown to be a contributing factor to worsening physical health among lecturers.

These articles strengthen the empirical foundation of this review by highlighting different dimensions of academic burnout: from the evolution of symptoms in nursing students, organizational interventions for faculty, cross-student aspects, meta-reviewed effectiveness of mindfulness, to the relationship between burnout and academic achievement at a large scale. The convergence of findings from these sources confirms that academic burnout is a universal symptom yet remains contextual in its manifestations and determinants.

CONCLUSION

A systematic review of 20 articles published in the past ten years confirms that academic burnout is a multidimensional phenomenon influenced by the interaction between individual factors (emotion regulation, resilience, grit, self-efficacy), structural factors (curriculum load, institutional support, learning climate), and sociodemographic factors (socioeconomic status, cultural background). The JD-R framework (Bakker & Demerouti,

2017) has proven appropriate in outlining the mechanisms of academic burnout, with academic demands exceeding available resources as the primary root cause. Mindfulness-based intervention strategies and strengthening social support have demonstrated convincing effectiveness in diverse educational population contexts.

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